

**(WO/2000/022741) OPTICAL AND PROGRAMMABLE FIBER OPTIC WAVELENGTH  
ADD/DROP SYSTEM**

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Description

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Title: OPTICAL AND PROGRAMMABLE FIBER OPTIC WAVELENGTH ADD/DROP SYSTEM

**Abstract:** An optical and programmable wavelength add/drop system is provided which includes a first optical signal on a first loop (110) as plural wavelengths, each wavelength residing on a separate path, reflecting selected wavelengths, optically dropping selected wavelengths from the first loop (10) to a second loop (120) and optically adding corresponding wavelengths from the second optical loop to the first loop and combining the reflected and the added wavelengths into a second signal. Dispersion compensation, signal amplification, gain equalization, switching functions, adding/dropping may be performed without the need to convert from optical to electrical and then back to the optical, rendering the system simpler and less costly to implement than conventional systems. It also has the advantages of broadcasting and monitoring the added/dropped wavelengths individually; reducing the required number of dense wavelength division multiplexers, and its modular design allows flexibility in upgrades to more complex systems.

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